FIG. 1

FIG. 2

FIG. 3

FIG. 4

```
                1    9 10    19 20    29 30    37 38    47 48    57 58    67 68    77 78    87 88   94

Hs FND   VSDVPRD-LE VVAAIPTSLL ISWDAPAVTV RYYRITYG-- ETGGNSPVQE FTVPGSKSTA TISGLKPGVD YTITVYAVTG RGDSPASSKP ISINYRT    94
Bt FN    VSDVPRD-LE VIAAIPTSLL ISWDAPAVTV RYYRITYG-- ETGSSSPVQE FTVPGSKSTA TISGLKPGVD YTITVYAVTG RGDSPASSKP VSINYRT   1510
Rn FN    VSDVPRD-LE VIASTPTSLL ISWEPPAVSV RYYRITYG-- ETGGNSPVQE FTVPGSKSTA TINnIKPGAD YTITLXAVTG RGDSPASSKP ISINYOT   1611
Mm Fn^   VSDIPRD-LE VIASTPTSLL ISWEPPAVSV RYYRITYG-- ETGGNSPVQE FTVPGSKSTA TINnIKPGAD YTITLXAVTG RGDSPASSKP ISINYOT   1611
Oc FN    VSDVPRD-LE VIASTPTSLL ISWEXPAVTV RYYRITYG-- ETpPN----- FTVPGTHSrA TITGLKPGVD YTITVYAVTG RGDSPPASKP VSINYXT    712
Gg FN    VSDVPRD-LE VRpTSPTSLE ISWDAPAVTV RYYRITYG-- ETGGSSPVQE FTVPGSNTA- QTGGhGPEKE TITGLNPGVS YTITVYAVTG RGDSPASSKP   443
Xl FN    VSDVPTD-LE VTSSSPNTLT ISWEAPAVSV RYYRITYS-- QTGGhGPEKE FTVPGTSNTA TITGLNPGVS YTIQVIAIKn NOKSepiiGr   1611
Oc FN    AiDAPSn-Lr FLATTPnSLL VSWoPPrIaI TGYIIKYe-- kpGSppriaI TITGLePGTE YTIQVIAIKn IIOKSepiiGr kKtdlKi-   1510
Bt FN    AiDAPSn-Lh FLATTPnSLL ISWoPPrIaI TGYIIKYe-- kpGSppriaI TITGLePGTE YTIQVIAIKn IIOKSepiiGr    197
Cf FN    VS-PPKD-Lv VTeVTeeTVN LAHDn-eMrV TeYLVVTP-- -THEdGIENQ FrVPGDQTST IIQeLePGVE YFIRVFAIle HKKSIpVSAr    197
Ec FN    VS-PPKD-Li VTeVTeeTVN LAHDn-eMrV TeYLVVTP-- -THEdGIENQ FrVPGDQTST IINeLePGVE YFIRVFAIle HKKSIpVSAr   1611
Cf FN    MIDGPQD-Lr VANVTPTTLD LSWIrPQneV DrFVVSXV-- -SAGNQRVi LeVPPEAdrT QLtdLHPGVE YVVTTAERG HAVSypASir    686
Oc FN    TIpVPVySLn IYdVGPTTHiI VOHQp-VGGA TGYILSYKPV kOtEprIpXE VrLGPTVNdM OLtdLVPnTE YANVTQANVLh dLTSepVTVc    686
IIs TC   TIpVPvvSLn IYdVGPTTHiI VOHQp-VGGA TGYILSYKPV kOtEprIpXE VrLGPTVNdM OLtdLVPnTE YANVTQANVLh dLTSepVTVc    197
Ss TP    TIpVPvvSLn IYdVGPTTHiI VOHQp-VGGA TGYILSYKPV kOtEprIpXp OdvkLRdVTH ELdGLLPHTE YTVTVYAMF-    889
Mm TX    LaIpmaSDLk LYdVSHSSAR AKHnG-VAGA TGNiiLXAPL IKIGLASTeL ELdGLLPHTE IKIGLASTeL ELdGLLPHTE   1551
IIs CAP  LaIpmaSDLi LYdVTenSHR VRHDA-VpGA SGYiLLXAPL TEGLAGUEKE NKIGEtITdI ELSGLLPNTE YTVTVYAMFG eeASDpVTGq   322
Oc C12                                                                                                              500
Gg C14                                                                                                              321
IIs UI
```

cons.   P L V   - -   SL   H   V   Y I Y
         M I   TV I   M   A   F V R
            L   L   I   N
            F

var.   --- -- - - -- ---- - --------- --- ------- ----- --- --- ---
         I   L PGVD Y ITV A G   P
         L   I NTE   Y VQL N S   R
              AS   R   E

CAP   Collagen alpha precursor
C12   Collagen type 12
FHD   Fibronectin type III domain
FN   Fibronectin
TP   Tenascin precursor
TC   Tenascin-C
UI   Undulin 1

Bt   Bovis taurus   cow
Cf   Canis familiaris   dog
Ec   Equus caballis   horse
Ss   Sus scrofa   pig
Hs   Homo sapiens   human
Oc   Oryctolagus cuniculus rabbit
Xl   Xenopus laevis   African clawed frog

BOLD   identical to IIs FND

lower case non-conservative substitution
            (charge reversal, change between hydrophobic
            and charged, addition or removal of P)

-           position of non-conservative substitutions

FIG. 5

FIG. 6

FIG. 7

7Fn3

8Fn3

9Fn3

10Fn3

Figure 8

Round 1 (30 cycles)　　Round 2 (30 cycles)　　Round 3 (30 cycles)

Round 4 (30 cycles)　　Round 5 (30 cycles)　　Round 6 (20 cycles)

Figure 9

Figure 10

V_H

CH_1

V_L

CL_1

CH_2

CH_3

IgG

$^{10}Fn3$

$^{10}Fn3$

CH_2

CH_3

$^{10}Fn3\text{-}CH_2\text{-}CH_3$
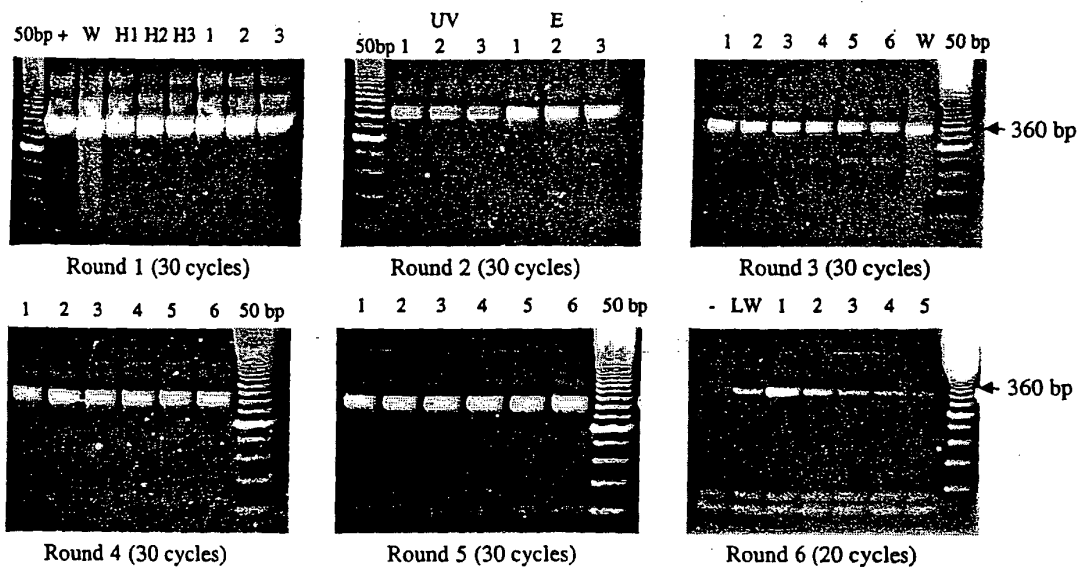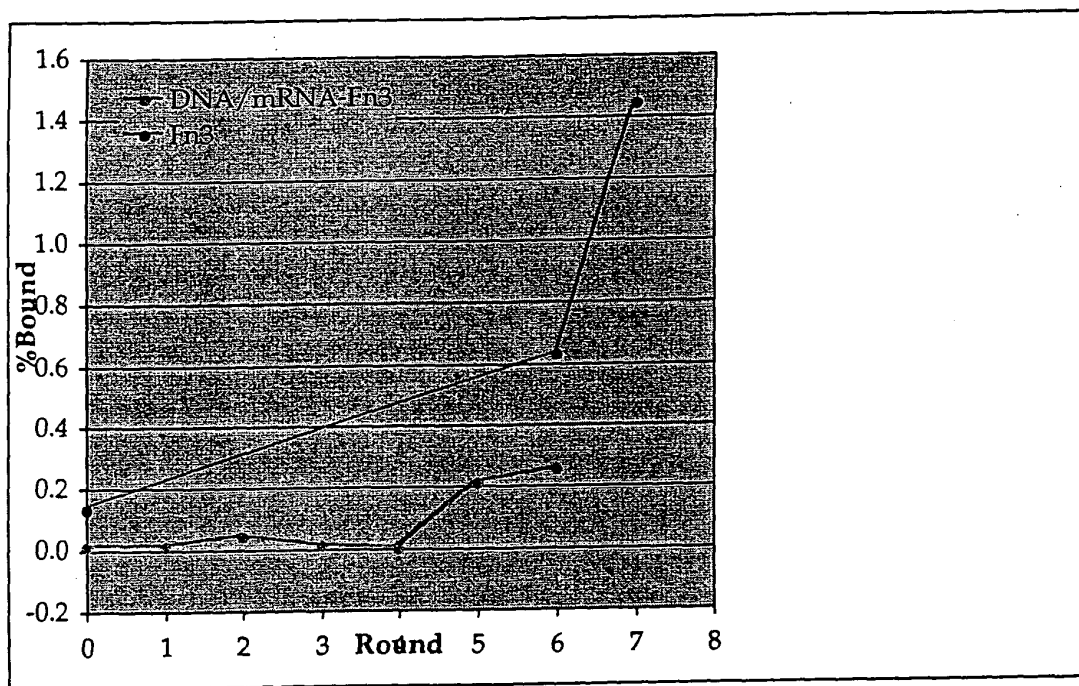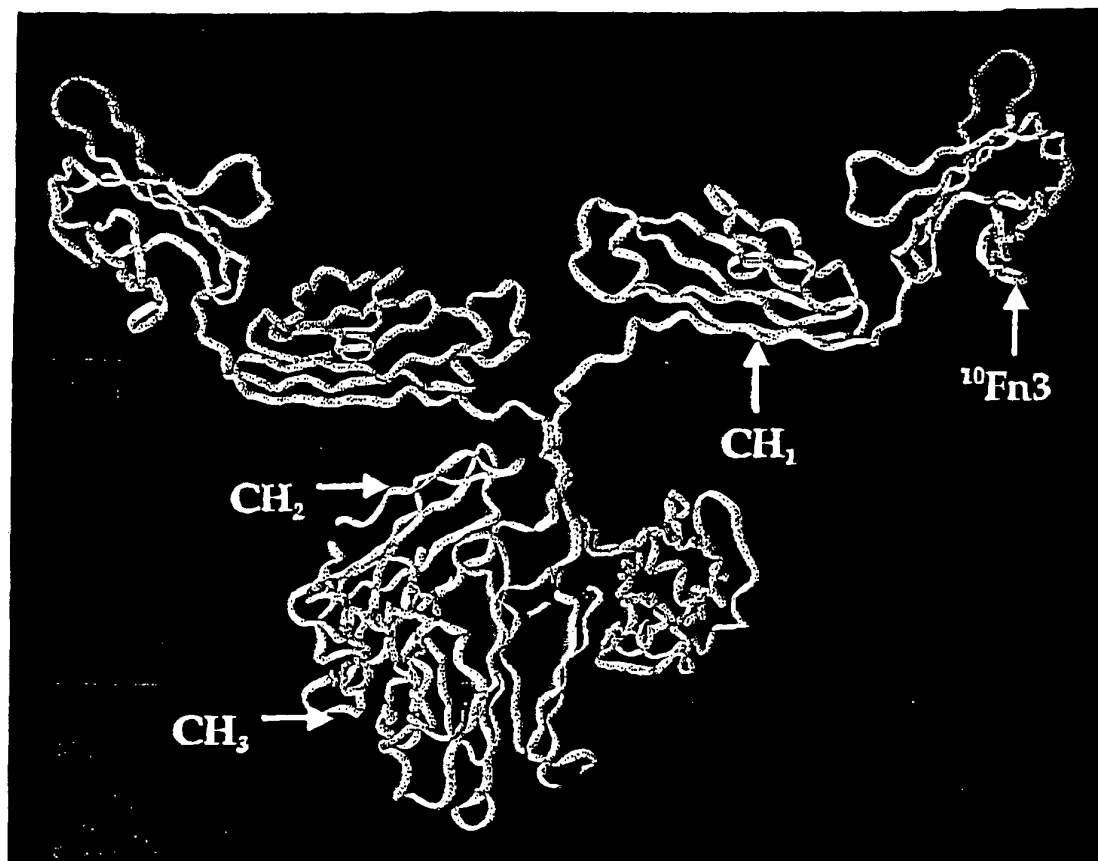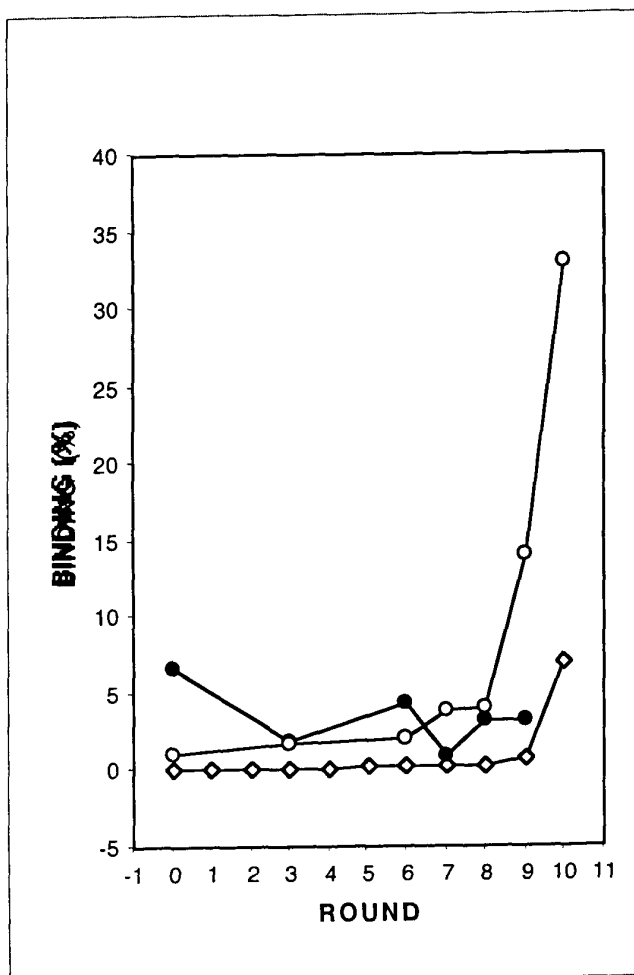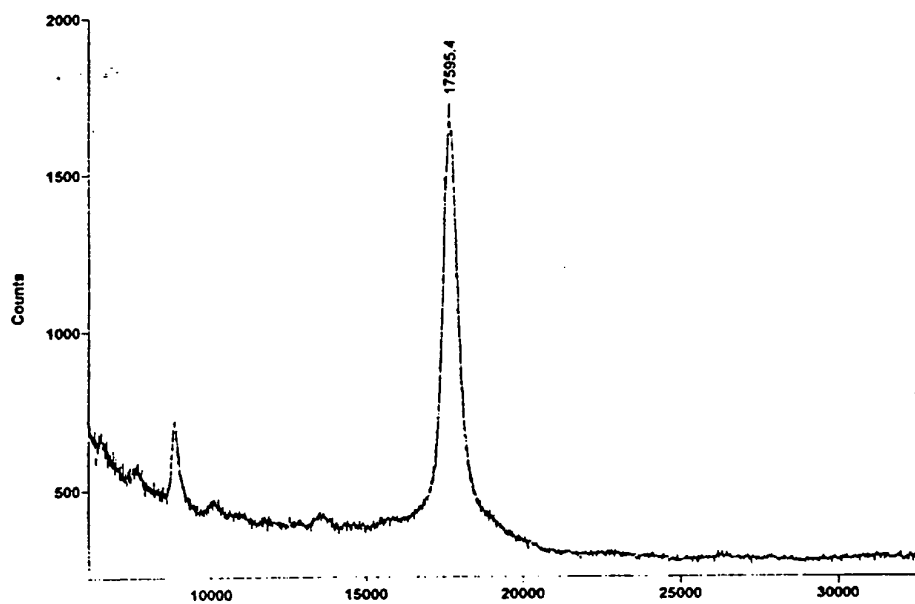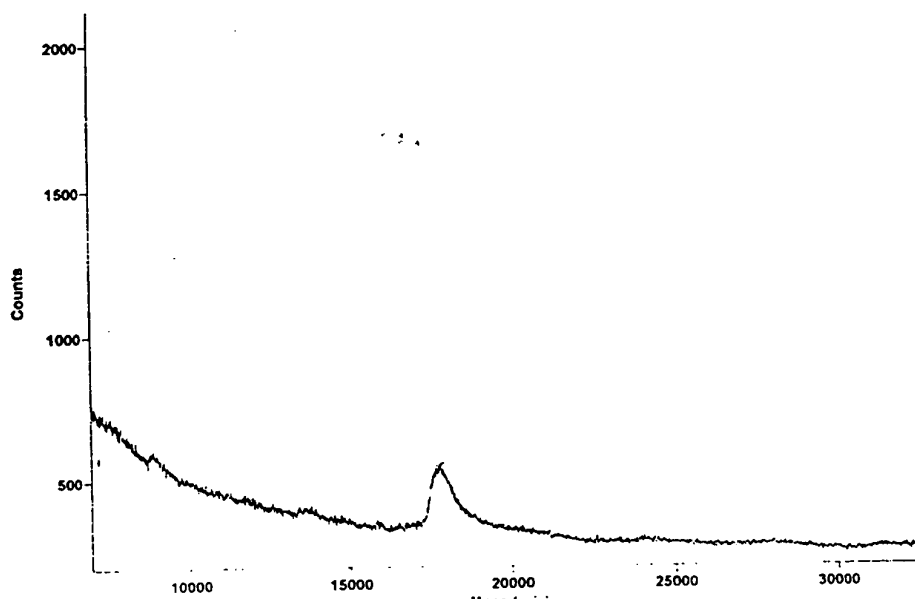
$^{10}Fn3$

CH_1

CH_2

CH_3

$^{10}Fn3\text{-}CH_1\text{-}CH_2\text{-}CH_3$

Figure 11

Figure 12

FIGURE 13

FIGURE 14

FIGURE 15

CP5'   CP3'   CPneg1

CPflag   CPneg2   CPneg3

FIGURE 16

CP5'   CP3'   CPneg1

CPflag   CPneg2   CPneg3

FIGURE 17